

REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-9, 11-13, 15-19 and 21 remain pending in the application subsequent to entry of this Amendment.

The claims have been amended in order to more particularly point out and distinctly claim that which applicants regard as their invention and to direct the claims to preferred aspects of the disclosure. More specifically, the subject matter of claim 14, which requires that steps (a) and (b) be carried out as a continuous process and that the fabric be subjected to each step for no more than five minutes, have been incorporated into claim 1. Claim 14 has been withdrawn as being redundant. The significance of this Amendment will be apparent from the remarks that follow.

The sole issue raised in the outstanding Official Action is the patentability of the then-pending claims over the disclosures of three documents, two literature citations and one U.S. patent. Applicants have carefully considered the examiner's comments on pages 3-6 of the Official Action but respectfully disagrees with the conclusions that the examiner has reached. In particular one must take into account not only the type of enzymes employed but also the processing conditions, notably heating, as well as overall timing of the process when assessing the relevance of the prior art even when the three references are combined.

In amended claim 1, a method for treating a cellulosic grey fabric is described which comprises two steps, viz. (a) a pretreatment step where use is made of one type of enzyme and (b) an integrated desizing and scouring step where use is made of two types of enzymes, namely a desizing enzyme and a bioscouring enzyme.

In step (a), the fabric is contacted at a temperature in the range of from 80-100⁰C with a thermostable enzyme allowing degradation of starch, whereas at the same time this temperature range facilitates the formation of cracks within the cuticula layer. These cracks ensure in subsequent step (b) -- which is carried out at a temperature of at most 70⁰C -- that the bioscouring enzyme can enter the primary cell wall of cotton, resulting in the degradation of a polymeric component of the primary cell wall of cotton, whereas at the same time the desizing enzyme degrades starch. By carrying the process out in this manner and as a continuous process, one is able to shorten the time of the process considerably, i.e. the fabric can now be subjected to each step for 5 minutes at maximum.

These two steps (a) and (b) are essential for the sufficient degradation and removal of

starch in the time window as now defined. The importance of this is explained in the specification. When these two steps are integrated in one single step using the same incubation time window, the removal of starch is inadequate (*see* Table 3). In this respect it is noted that an adequate removal of starch is essential in preparing fabrics that can subsequently be subjected to dyeing and finishing processes, as is well-appreciated by any skilled person.

The Tzanov article concerns the use of conventional, non-thermostable, enzymes which are immediately inactivated (denatured) at a temperature in the range of from 80 to 100°C. In this article only elevated temperatures are used to inactivate the enzyme when the enzymatic process as such has been finished. Only, the conventional alkaline scouring where sodium hydroxide is used and it is carried out at an elevated temperature. Such a conventional scouring step has nothing to do with the enzymatic desizing and scouring process step which is now defined in claim 1, as any skilled person would immediately realize.

As regards US 6,258,590, it is noted in this patent that a particular one step scouring process is described where an enzyme is used to remove non-cellulosic compounds. This enzyme is contacted with cellulosic fibers at a temperature above 70°C, preferably above 80°C. First, note that this patent is completely silent about an integrated desizing and scouring process where use is made of two types of enzymes, let alone such an integrated step which is carried out after a particular pretreatment step. Second, the scouring step according to US 6,258,590 is carried out at a temperature which is higher than the temperature at which the integrated desizing and scouring step in accordance with the present invention is carried out (higher than 70°C, preferably higher than 80°C versus at most 70°C). Hence, there would be no incentive at all for the skilled person to combine the teaching of US 6,258,590 with the Tzanov document to arrive at the present invention.

The Ando article cited is also completely silent about an integrated desizing and scouring step which follows a pretreatment step. Moreover, the desizing step in accordance with Ando is carried out at a temperature higher than 70°C (*see* page 430, column 1), which is in stark contrast with applicant's integrated process step which is carried out at a temperature of at most 70°C. One could therefore conclude that a person skilled in the art would also not combine the teachings of the Tzanov and Ando documents to arrive at the present invention.

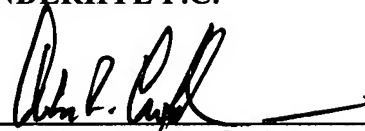
For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration and allowance are solicited. Should the examiner require further information, please contact the undersigned.

LENTING
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Respectfully submitted,

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